REMARKS

Applicant gratefully acknowledges the indication of allowable subject matter in claims 41-43. Claims 25-30, 32-33, 36, and 39-43 remain pending in the application. Claim 41 has been re-written independent form to include the limitations of claim 25.

Rejections Under 35 U.S.C. § 112

Claims 25 and 40 were rejected as being indefinite. Claims 25 and 40 have been amended to recite "light propagating outside the optical fiber" in order to distinguish the light used to form the Fabry-Perot cavity from light propagating in the fiber after the Fabry-Perot cavity has been formed. Withdrawal of the rejection with respect to the claims as amended is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 25-31 and 40 stand rejected as obvious over Cielo. This rejection is respectfully traversed. Both claims 25 and 40 require exposing an opening of a mask formed over the optical fiber to light propagating outside the optical fiber such that a refractive index of a corresponding portion of the optical fiber is changed to form a Fabry-Perot cavity. Cielo neither discloses nor suggests this step.

Cielo teaches two ways for making his reflectors. In a first embodiment, illustrated in Figures 1 and 2, light 28 propagating outside of an optical fiber is used to create a mask 16, and then ion bombardment through the mask 16 is used to change the index of refraction of the optical fiber. In this method, the light is used to create the mask, not to change the index of refraction of any portion of the optical fiber. In contrast to claims 25 and 40, it is the ion bombardment that changes the index of refraction of the optical fiber. See col. 3, lines 50-52.

Thus, Cielo's first example does not disclose or suggest the aforementioned step of claims 25 and 40 and therefore does not render these claims obvious.

In Cielo's second method, illustrated in Figs 3 and 4, a portion of the cladding 54 of the optical fiber is etched away and a photoresist pattern 62 is formed on the optical fiber over the remaining cladding 54 by exposing a layer 58 of photoresist to two counter-propagating beams of light propagating *inside* the optical fiber. Col. 4, lines 38-42. This light is neither propagating outside the optical fiber, nor passing through the opening of a mask, as required by claims 25 and 40. Moreover, the light does not change the index of refraction of any portion of the optical fiber (i.e., the cladding or the core), but rather is used to develop the photoresist. Accordingly, Cielo's second method also does not render claims 25 or 40 obvious.

The office action cites to the abstract for the teaching of the aforementioned step of claims 25 and 40. Applicant respectfully submits that the abstract is fully consistent with the discussion and the passages from the detailed description of Cielo set forth above. Accordingly, nothing in the Abstract of Ceilo renders claims 25 or 40 obvious.

The office action further asserts at page 6, 4th paragraph, that Cielo discloses Fabry-Perot cavities. Applicant respectfully disagrees. The basis of the assertion appears to be that Cielo teaches forming resonators, and that the definition of a Fabry-Perot cavity is an "optical resonator in which feedback is accomplished by two parallel planes." Applicant respectfully submits that this logic is faulty. While it is true that Cielo teaches the formation of a resonator, and it is true that a Fabry-Perot cavity is a type of resonator, it is ***not*** true that all resonators are Fabry-Perot cavities. The definition of Fabry-Perot cavity is not just a resonator, but rather a "resonator in which feedback is accomplished by two parallel planes." In contrast to this definition, the resonators taught by Cielo are formed by two fiber Bragg gratings. For example,

as shown in Fig. 5 of Cielo, a first fiber Bragg grating is formed at location A and a second fiber Bragg grating is formed at location B. These fiber Bragg gratings (which are each of the type shown in Fig. 4) are not parallel planes, and thus the combination of two of these gratings (although forming a type of resonator) does ***not*** form a Fabry-Perot cavity. Moreover, even if the resonator formed by the two fiber Bragg gratings did form a Fabry-Perot cavity, this cavity would not be formed by a single mask opening as required by claims 25 and 40. Accordingly, withdrawal of the rejection of claims 25 and 40, and all claims depending therefrom, is respectfully requested.

In light of the above, Applicants submit that this application is now in condition for allowance and therefore request favorable consideration. If any issues remain which the Examiner feels may be best resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact Applicants counsel, James M. Heintz at 202.861.4167.

Respectfully submitted,

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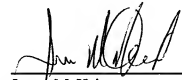

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